Complete Listing of the Claims

Claims 1-63 (Cancelled).

64. (Currently amended) A method of making one or more cDNA molecules, comprising:

(a) mixing one or more RNA molecules with (i) one or more polypeptides having reverse transcriptase activity and (ii) at least one primer-adapter nucleic acid molecule wherein the at least one primer-adapter nucleic acid molecule comprises one or more ligands and one or more cleavage sites, to form a mixture;

(b) incubating the mixture under conditions sufficient to make one or more cDNA molecules, wherein ~~the~~ one or more of the cDNA molecules comprise at least one primer-adapter nucleic acid molecule;

(c) contacting one or more of the cDNA molecules with ~~a~~ at least one hapten to produce one or more hapten-cDNA molecule complexes; and

(d) inserting or ligating one or more of the cDNA molecules into one or more vectors.

65. (Previously added) The method according to claim 64, further comprising isolating one or more of the hapten-cDNA molecule complexes.

66. (Currently amended) The method according to claim 64, wherein ~~the~~ at least one hapten is bound to a solid support.

67. (Previously added) The method according to claim 66, wherein the solid support is selected from the group consisting of nitrocellulose, diazocellulose, glass, polystyrene, polyvinylchloride, polypropylene, polyethylene, dextran, Sepharose, agar, starch, nylon, beads and microtitre plates.

68. (Previously added) The method according to claim 66, wherein the solid support is a magnetic bead.

69. (Currently amended) The method according to claim 64, further comprising contacting one or more of the complexes with a restriction enzyme to cleave one or more of the cDNA molecules from the complexes.

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70. (Previously added) The method according to claim 69, wherein the restriction enzyme is *Not*I.

71. (Currently amended) The method according to claim 69, wherein one or more of the cleaved cDNA molecules comprise one sticky end and one blunt end.

72. (Previously added) The method according to claim 71, wherein the sticky end is a *Not*I sticky end and the vector has a *Not*I compatible end and a blunt end.

73. (Previously added) The method according to claim 64, wherein the one or more polypeptides are selected from the group consisting of a Moloney Leukemia Virus (M-MLV) reverse transcriptase, a Rous Sarcoma Virus (RSV) reverse transcriptase, an Avian

Myeloblastosis Virus (AMV) reverse transcriptase, a Rous Associated Virus (RAV) reverse transcriptase, a Myeloblastosis Associated Virus (MAV) reverse transcriptase, a Human Immunodeficiency Virus (HIV) reverse transcriptase, a retroviral reverse transcriptase, a retrotransposon reverse transcriptase, a hepatitis B virus reverse transcriptase, a cauliflower mosaic virus reverse transcriptase, a bacterial reverse transcriptase, and mutants and variants thereof that are substantially reduced in RNAse H activity.

74. (Currently amended) The method according to claim 64, wherein the conditions sufficient to make one or more cDNA molecules comprise ~~a~~ use of one or more DNA polymerases, one or more nucleotides and one or more primers.

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75. (Currently amended) The method according to claim 74, wherein one or more of the primers are primer-adapters that comprise one or more ligands and one or more cleavage sites.

76. (Previously added) The method according to claim 64, wherein at least one of the RNA molecules is an mRNA molecule.

77. (Previously added) The method according to claim 64, wherein at least one of the RNA molecules is polyadenylated.

78. (Previously added) The method according to claim 64, wherein the one or more RNA molecules is a population of RNA molecules.

79. (Currently amended) A method of making ~~a~~ one or more cDNA molecules, comprising

(a) mixing one or more RNA molecules with (i) one or more polypeptides having reverse transcriptase activity and (ii) at least one primer-adapter nucleic acid molecule wherein the at least one primer-adapter nucleic acid molecule comprises ~~a~~ at least one restriction enzyme recognition sequence and at least one biotin moiety, to form a mixture;

(b) incubating the mixture under conditions sufficient to make one or more cDNA molecules, wherein ~~the~~ one or more of the cDNA molecules comprise at least one primer-adapter nucleic acid molecule;

(c) contacting one or more of the cDNA molecules with one or more solid supports ~~to~~ which ~~are bound~~ comprise avidin and/or streptavidin, to produce one or more solid support-cDNA molecule complexes;

(d) contacting one or more of the complexes with ~~a~~ at least one restriction enzyme that cleaves the restriction enzyme recognition sequence in the adapter-primer; and

(~~d~~e) inserting or ligating one or more of the cDNA molecules into one or more vectors.

80. (Previously added) The method according to claim 79, further comprising isolating one or more of the solid support-cDNA molecule complexes.

81. (Previously added) The method according to claim 79, wherein the solid support is selected from the group consisting of nitrocellulose, diazocellulose, glass, polystyrene,

polyvinylchloride, polypropylene, polyethylene, dextran, Sepharose, agar, starch, nylon, beads and microtitre plates.

82. (Previously added) The method according to claim 79, wherein the solid support is a magnetic bead.

83. (Previously added) The method according to claim 79, wherein the restriction enzyme is *Not*I.

84. (Previously added) The method according to claim 79, wherein the one or more polypeptides are selected from the group consisting of a Moloney Leukemia Virus (M-MLV) reverse transcriptase, a Rous Sarcoma Virus (RSV) reverse transcriptase, an Avian Myeloblastosis Virus (AMV) reverse transcriptase, a Rous Associated Virus (RAV) reverse transcriptase, a Myeloblastosis Associated Virus (MAV) reverse transcriptase, a Human Immunodeficiency Virus (HIV) reverse transcriptase, a retroviral reverse transcriptase, a retrotransposon reverse transcriptase, a hepatitis B virus reverse transcriptase, a cauliflower mosaic virus reverse transcriptase, a bacterial reverse transcriptase, and mutants and variants thereof that are substantially reduced in RNAse H activity.

85. (Currently amended) The method according to claim 79, wherein the conditions sufficient to make one or more cDNA molecules comprise use of one or more DNA polymerases, one or more nucleotides and one or more primers.

86. (Previously added) The method according to claim 79, wherein at least one of the RNA molecules is an mRNA molecule.

87. (Previously added) The method according to claim 79, wherein at least one of the RNA molecules is polyadenylated.

88. (Previously added) The method according to claim 79, wherein the one or more RNA molecules is a population of RNA molecules.

89. (Currently amended) A method of making one or more cDNA molecules, comprising:

(a) mixing one or more mRNA molecules with (i) one or more polypeptides having reverse transcriptase activity and (ii) at least one primer-adapter nucleic acid molecule, wherein the at least one primer-adapter nucleic acid molecule comprises one or more ligands and one or more cleavage sites, to form a mixture; ~~and~~

(b) incubating the mixture under conditions sufficient to make one or more double stranded cDNA molecules, wherein ~~the~~ one or more <u>of the</u> cDNA molecules comprise at least one primer-adapter nucleic acid molecule;

(c) contacting ~~the mixture with a~~ <u>one or more of the cDNA molecules with at least one</u> hapten under conditions sufficient to form one or more hapten-cDNA molecule complexes; and

(d) isolating one or more of the complexes comprising the cDNA molecules.

90. (Currently amended) The method according to claim 89, further comprising ~~digesting the complexes with a single restriction enzyme that cleaves~~ cleaving one or more of the complexes ~~at~~ with at least one enzyme that cleaves one or more of the complexes at one or more cleavage sites in the primer-~~adapters~~adapter, to produce cleaved one or more cDNA molecules.

91. (Currently amended) The method according to claim 90, further comprising inserting or ligating one or more of the cleaved cDNA molecules into one or more vectors.

92. (Previously added) The method according to claim 89, wherein the hapten is bound to a solid support.

93. (Previously added) The method according to claim 92, wherein the solid support is selected from the group consisting of nitrocellulose, diazocellulose, glass, polystyrene, polyvinylchloride, polypropylene, polyethylene, dextran, Sepharose, agar, starch, nylon, beads and microtitre plates.

94. (Previously added) The method according to claim 92, wherein the solid support is a magnetic bead.

95. (Currently amended) The method according to claim 91, wherein the ~~restriction~~ enzyme is *Not*I.

96. (Currently amended) The method according to claim 91, wherein one or more of the cleaved cDNA molecules comprise one sticky end and one blunt end.

97. (Previously added) The method according to claim 96, wherein the sticky end is a *Not*I sticky end and the vector has a *Not*I compatible end and a blunt end.

98. (Previously added) The method according to claim 89, wherein the one or more polypeptides are selected from the group consisting of a Moloney Leukemia Virus (M-MLV) reverse transcriptase, a Rous Sarcoma Virus (RSV) reverse transcriptase, an Avian Myeloblastosis Virus (AMV) reverse transcriptase, a Rous Associated Virus (RAV) reverse transcriptase, a Myeloblastosis Associated Virus (MAV) reverse transcriptase, a Human Immunodeficiency Virus (HIV) reverse transcriptase, a retroviral reverse transcriptase, a retrotransposon reverse transcriptase, a hepatitis B virus reverse transcriptase, a cauliflower mosaic virus reverse transcriptase, a bacterial reverse transcriptase, and mutants and variants thereof that are substantially reduced in RNAse H activity.

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99. (Currently amended) The method according to claim 89, wherein the conditions sufficient to make one or more cDNA molecules comprise use of one or more DNA polymerases, one or more nucleotides and one or more primers.

100. (Previously added) The method according to claim 99, wherein the primers are primer-adapters that comprise one or more ligands and one or more cleavage sites.

101. (Previously added) The method according to claim 89, wherein at least one of the RNA molecules is an mRNA molecule.

102. (Previously added) The method according to claim 89, wherein at least one of the RNA molecules is polyadenylated.

103. (Previously added) The method according to claim 89, wherein the one or more RNA molecules is a population of RNA molecules.

104. (Currently amended) A method of making one or more cDNA molecules, comprising:

(a) mixing one or more mRNA molecules with (i) one or more polypeptides having reverse transcriptase activity and (ii) at least one primer-adapter nucleic acid molecule, wherein the at least one primer-adapter nucleic acid molecule comprises one or more ligands and one or more cleavage sites, to form a mixture; ~~and~~

(b) incubating the mixture under conditions sufficient to make one or more double stranded cDNA molecules, wherein ~~the~~ one or more of the cDNA molecules comprise at least one primer-adapter nucleic acid molecule;

(c) contacting one or more of the cDNA molecules with at least one ~~the mixture with a~~ hapten under conditions sufficient to form one or more hapten-cDNA molecule complexes; and

(d) ~~digesting the~~ cleaving one or more of the complexes with ~~a single restriction~~ at least one enzyme that cleaves one or more of the complexes at one or more cleavage sites in the primer-~~adapters~~ adapter, to produce one or more cleaved cDNA molecules.

105. (Currently amended) The method according to claim 104, further comprising isolating one or more of the complexes using a solid support.

106. (Currently amended) The method according to claim 104, further comprising ligating or inserting the cleaved cDNA molecules into ~~vectors~~ one or more plasmids.

107. (Previously added) The method according to claim 104, wherein the hapten is bound to a solid support.

108. (Previously added) The method according to claim 108, wherein the solid support is selected from the group consisting of nitrocellulose, diazocellulose, glass, polystyrene, polyvinylchloride, polypropylene, polyethylene, dextran, Sepharose, agar, starch, nylon, beads and microtitre plates.

109. (Previously added) The method according to claim 108, wherein the solid support is a magnetic bead.

110. (Previously added) The method according to claim 104, wherein the restriction enzyme is *Not*I.

111. (Previously added) The method according to claim 106, wherein the cleaved cDNA molecules comprise one sticky end and one blunt end.

112. (Previously added) The method according to claim 111, wherein the sticky end is a *Not*I sticky end and the vector has a *Not*I compatible end and a blunt end.

113. (Previously added) The method according to claim 104, wherein the one or more polypeptides are selected from the group consisting of a Moloney Leukemia Virus (M-MLV) reverse transcriptase, a Rous Sarcoma Virus (RSV) reverse transcriptase, an Avian Myeloblastosis Virus (AMV) reverse transcriptase, a Rous Associated Virus (RAV) reverse transcriptase, a Myeloblastosis Associated Virus (MAV) reverse transcriptase, a Human Immunodeficiency Virus (HIV) reverse transcriptase, a retroviral reverse transcriptase, a retrotransposon reverse transcriptase, a hepatitis B virus reverse transcriptase, a cauliflower mosaic virus reverse transcriptase, a bacterial reverse transcriptase, and mutants and variants thereof that are substantially reduced in RNAse H activity.

114. (Currently amended) The method according to claim 104, wherein the conditions sufficient to make one or more cDNA molecules comprise use of one or more DNA polymerases, one or more nucleotides and one or more primers.

115. (Previously added) The method according to claim 114, wherein the primers are primer-adapters that comprise one or more ligands and one or more cleavage sites.

116. (Previously added) The method according to claim 104, wherein at least one of the RNA molecules is an mRNA molecule.

117. (Previously added) The method according to claim 104, wherein at least one of the RNA molecules is polyadenylated.

118. (Previously added) The method according to claim 104, wherein the one or more RNA molecules is a population of RNA molecules.

119. (New) A method of making one or more cDNA molecules, comprising:

(a) mixing one or more RNA molecules with (i) one or more reverse transcriptases and (ii) one or more primer-adapter nucleic acid molecules, wherein one or more of the primer-adapter nucleic acid molecules comprise at least one restriction enzyme recognition sequence and at least one ligand, to form a mixture;

(b) incubating the mixture under conditions sufficient to make one or more cDNA molecules, wherein one or more of the cDNA molecules comprise at least one primer-adapter nucleic acid molecule;

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(c) contacting one or more of the cDNA molecules with one or more solid supports which comprise one or more haptens, to produce one or more solid support-cDNA molecule complexes;

(d) cleaving one or more of the complexes with at least one restriction enzyme that cleaves the restriction enzyme recognition sequence in the primer-adapters, to produce one or more cleaved cDNA molecules; and

(e) inserting or ligating one or more of the cleaved cDNA molecules into one or more vectors.

120. (New) The method of claim 56, wherein the restriction enzyme is *Not*I.

121. (New) The method of claim 56, wherein the ligand is a biotin moiety.

122. (New) The method of claim 56, wherein the hapten is avidin or streptavidin.